Maryland Department of Natural Resources

Bay Grass Restoration Partnership Newsletter

Issue 3 Spring/Summer 2006

Special points of interest:

- DNR completes forth season of eelgrass seed collection near Tangier Sound
- Bay Grasses in Classes Program completes ninth year with over 2.75 acres of grasses planted to date
- Water Chestnut Eradication in progress on the Bird and Sassafras Rivers
- Third year of Harness Creek oyster monitoring currently underway
- Two BGIC teachers win Teacher of the Year Awards
- 400 Kennard Elementary students attend Corsica River Water Festival
- Governor Ehrlich visits BGIC School in Celebration of Earth Day

Inside this issue:

Maryland DNR's Large-scale Restoration Efforts are Underway on the Potomac and Patuxent Rivers

DNR's Resource Assessment Service completed a forth season of eelgrass seed collection in Tangier Sound near Crisfield, MD from May 22nd to June 7th.

The eelgrass seeds were collected as part of a continued effort to plant or seed bay grasses on a large scale in strategic locations to achieve the state's restoration goals.

Restored eelgrass near Jefferson Patterson Park, Patuxent River

DNR has long recognized the need for a large-scale restoration approach. There are areas of the Bay where water quality has improved sufficiently to support bay grasses, yet a lack of seeds prevents recolonization of these areas. Planting or seeding large beds with seeds collected from healthy beds elsewhere could lead to vigorous natural revegetation in adjoining areas.

The 2006 eelgrass seed harvest season was extremely challenging, and resulted in only 81 bags of reproductive material collected in the field - far less than the nearly 2000 bags collected in 2005.

For reasons we do not understand, eelgrass reproductive shoots in all of the areas visited were roughly less than half the length they were in 2004 and 2005. This greatly complicated our efforts. Most of the seed collection was done by SCUBA divers manually picking reproductive shoots instead of using a harvesting boat as in previous

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Bay Grasses in Classes Wraps Up Its 9th Season

Maryland DNR, in partnership with the Chesapeake Bay Foundation (CBF), has completed its ninth season of the Bay Grasses in Classes (BGIC) program.

Since its inception in 1998, 1,404 classes and 36,050 students have been involved in the program. In 2006, 135 schools with 4,050 students participated in one or all phases of this project.

Interested teachers from across the State were trained by DNR and CBF staff in January. Teachers used the curriculum materials and online resources provided to educate

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2006 Water Chestnut Eradication Effort In Progress on the Bird and Sassafras Rivers

Maryland's effort to control the spread of water chestnut (*Trapa natans*) in Maryland will continue this summer. Since 1999, the Department has patrolled the Sassafras and Bird Rivers and removed all water chestnut plants that could be located.

Total harvest has declined from approximately 400,000 pounds of plants harvested in 1999 to just a few hundred pounds in 2004 and 2005. The reduction in distribution of this species has been gratifying and we hope to see the last of these plants by 2010.

For more information, contact Mike Naylor (mnaylor@dnr.state.md.us, 410-260-8630) or visit **http://www.dnr.state.md.us/bay/sav/restoration/other_projects.asp**.

Water Chestnut Plant

Harness Creek Oyster Monitoring

Maryland Department of Natural Resources is working to restore oysters and bay grasses to Harness Creek on the South River in partnership with the Oyster Recovery Partnership, South River Federation, Chesapeake Bay Foundation, Chesapeake Bay Trust, NOAA, and the National Fish and Wildlife Foundation.

It is hypothesized that if the Chesapeake Bay Oyster Restoration Goals set forth in the Chesapeake Agreement (2000) are met, increased numbers of oysters could remove enough suspended material from the water column to increase light penetration to the bottom, a critical step for bay grass survival and resurgence. The objective of this project is to demonstrate the effectiveness of native oysters (*Crassostrea virginica*) in improving water quality specifically to support bay grass restoration, growth and survival.

Volunteer monitoring oysters from Harness Creek oyster reef

Oyster Recovery Partnership vessel, Robert Lee, seeding oyster spat in Harness Creek, South river

Maryland DNR began monitoring water quality conditions in Harness Creek in 2003 and is currently tracking improvements in water quality as a direct result of the oysters, relative to the habitat requirements of SAV for future SAV transplants.

The third year of oyster monitoring began in June and will be completed in July by DNR staff, who will assess overall oyster health, specifically survival, growth and presence of disease (MSX and Dermo). Once the enlarged oyster reef provides significant increases in water quality, bay grass restoration plantings will take place inshore of the oyster reef.

For more information about the Harness Creek project, contact Lee Karrh (lkarrh@dnr.state.md.us, 410-260-8650) or visit **http://www.dnr.state.md.us/bay/sav/restoration/hc_gen_info.asp**.

Coming Soon!

Underwater Grasses in Chesapeake Bay & Mid-Atlantic Coastal Waters

Guide to Identifying Submerged Aquatic Vegetation

By Peter W. Bergstrom, Robert F. Murphy, Michael D. Naylor, Ryan C. Davis and Justin T. Reel

This guide includes an identification key, descriptions, color photographs, and line drawings of the most common SAV species, along with other aquatic vegetation and algae found in the Bay. An informative section on how to identify confusing SAV species is included. The guide also contains the salinity ranges of each species and the salinity ranges in the Chesapeake Bay during wet and dry years. Since the guide is printed on durable, water resistant paper, it makes an excellent reference to bring in the field. *Underwater Grasses in Chesapeake Bay & the Mid-Atlantic Coastal Waters* is scheduled to be published this summer.

Contact Mike Naylor (mnaylor@dnr.state.md.us, 410-260-8630) for more information.

Large-scale Restoration

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DNR Biologist collecting eelgrass seeds using SCUBA

Eelgrass spathe containing both mature and immature seeds

years.

Some of the harvested material was used to make seed bags for immediate distribution simulating natural seed dispersal. Mesh bags were stuffed with freshly cut seed material and deployed allowing for seeds to mature and settle to the bottom in suitable restoration areas. Seed bags were deployed on the Potomac (near St. George's Island) and Patuxent (near Parrans' Hollow) Rivers during June. Seeding densities were set to equal 800,000 eelgrass seeds per acre at each site.

Approximately half of the harvested material will be processed at DNR's Piney Point Aquaculture Facility for fall dispersal. The eelgrass material will be held through the summer in large tanks to allow for seeds to separate from non-seed material. After separation, seeds will be stored under a temperature and salinity controlled environment.

Large holding tanks containing eelgrass reproductive material, including seeds

The seeds will be planted this fall on the Potomac, Patuxent, and Little Choptank Rivers.

Maryland DNR continues to develop and implement techniques for large-scale harvesting and processing of eelgrass seeds for use in restoration projects.

For more information on Maryland DNR's large-scale eelgrass restoration projects, please visit **http://www.dnr.state.md.us/bay/sav/restoration.asp**.

Bay Grasses in Classes

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their classes on the importance of bay grasses. Teachers were provided with materials necessary to construct growth chambers in their classrooms including, aquarium equipment, sediment, and seeds or adult plants to propagate. Each student had an opportunity to plant the seeds or propagate adult plants, monitor growth and record data, as well as participate in lessons and activities designed to educate them on the benefits of bay grass communities.

Students monitoring their classroom-raised bay grass

Students planting bay grasses in Rocky Point Creek, Baltimore County

After 12-16 weeks of caring for their bay grasses, the students disassembled their systems and transported the grasses to restoration sites throughout the state.

Approximately 90 classes attended a field trip at the end of the program to plant their classroom-raised grasses at one of the five restoration sites in the Chesapeake Bay watershed, including: Duvall Creek, South River (Anne Arundel County), Rocky Point Creek (Baltimore County), Clopper Lake, Seneca Creek State Park (Montgomery County), Broad Creek, Choptank River (Dorchester County) and North Bay (Cecil County). There they took part in planting the grasses and other activities designed to reinforce their knowledge of bay grasses. By studying the ecological importance of bay grasses and actively participating in restoration, students also gained a sense of stewardship of the Bay. Students have planted over 2.75 acres of bottom surface in the Bay with the 475,000 plants grown in their classrooms.

Students using a seine net to collect fish during a BGIC planting event

BGIC receives funding from the Chesapeake Bay Trust and the National Oceanic Atmospheric Administration (NOAA). For more information on the Bay Grasses in Glasses program, contact Mark Lewandowski (mlewandowski@dnr.state.md.us, 410-260-8634) or visit us online at **http://www.dnr.state.md.us/bay/sav/bgic/**.

Bay Grasses in the NEWS

Two BGIC teachers recognized as Teachers of the Year

In January 2006, two BGIC teachers, Lee Franklin and Margaret Paul, received the Chesapeake Bay Trust's Teacher of the Year award. The Chesapeake Bay Trust Teacher of the Year award recognizes the contributions that Maryland teachers make restoring and protecting the Chesapeake Bay. Two teachers are annually awarded, one elementary or middle school teacher and one high school teacher who demonstrate a genuine and sustained commitment to Bay education and restoration projects.

Lee Franklin teaches third, fourth and fifth grades at Kennard Elementary School in Queen Anne's County. In addition to raising bay grasses, Ms. Franklin's students are involved in hands-on Bay ecology projects, a Diamondback Terrapin raise and release project and a recycling program.

Margaret Paul teaches environmental science at Towson High School in Baltimore County. Mrs. Paul's students are involved in soil composting projects, raising horseshoe crabs, testing the water quality of a local Bay tributary, along with raising bay grasses for the BGIC program.

Congratulations Lee and Margaret!

Corsica River Water Festival

Approximately 400 students attended the Corsica River Water Festival at Kennard Elementary in Centreville, Maryland on May 4th, 2006. The students spent time at 20 hands-on education stations related to the Corsica River Watershed project, including nutrient run-off, oyster anatomy and bay grass restoration. The students learned about these environmental issues and what they can do to help restore the Bay.

DNR Biologist, Mark Lewandowski, and friend participate in a Corsica River Water Festival activity

Governor Ehrlich visits BGIC School in Celebration of Earth Day

Governor Robert L. Ehrlich, Jr. visited Annapolis High School on April 21st, 2006 to review the Bay Grasses in Classes program in honor of Earth Day. Governor Ehrlich was joined by Maryland Department of Natural Resources Secretary C. Ronald Franks, Maryland Department of the Environment Secretary Kendl Philbrick and representatives from the Maryland Department of Natural Resources, the Maryland State Department of Education and Maryland Department of Agriculture.

"When we focus on the environment in Maryland, we invariably turn our focus to the Chesapeake Bay", said Governor Ehrlich. "I am proud of the many programs we're working on at the State level to help the Bay and our environment – from restoring our oyster populations and Bay grasses, to reducing the amount of nutrients that go into the water."

Robert L. Ehrlich, Jr., Governor

Michael S. Steele, Lieutenant Governor

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